

EXPANDABLE GARMENT CLOSURE

[0001] This invention relates to garments that have opposing portions that use button and buttonhole combinations to attach the portions adjacent together. More specifically, this invention relates such a combination being expandable to allow for increase in the size the combination will allow. Such a combination can be used in standard shirt collars, jeans, shorts, and other places that use button and buttonhole combinations.

BACKGROUND OF THE INVENTION

[0002] Various dress shirt designs are well known in the market. An example of such designs is shown in FIGS. 1-3. The shirt generally comprises a body portion 1, arm sections 2 and 3 extending at opposite sides and a collar portion. The body portion 1 is divided into a back portion (not shown) and a front portion, which is divided into two sides a left front 10 and a right front 20. An overlapping portion 11 of the left front 10 having a plurality of buttonholes 12 and 13 covers a respective portion 21 of the right front 20 which has a collar button 22 and a plurality of lower buttons 23. Each of the buttonholes 13 generally has a vertical alignment, except for the buttonhole 12 in the collar 40 of the shirt. The buttons 22 and 23 fit through the buttonholes 12 and 13 to hold the right and left portions of the shirt together in the arrangement shown. The collar 40 is shown in greater detail in FIGS. 2 and 3. The collar 40 generally comprises a neck section 410 attached to the body portion 1 of the shirt and forms a ring around the neck of a wearer of the shirt and a flap section 420 that is attached to the neck section 410 and folds over to cover most of the neck section, as shown in FIG. 2. The ends of the collar

414 and 415, as shown in FIGS. 3 and 4, overlap to make the collar into a loop. In an unfolded position, the flap section 420 can extend away from the shirt, as shown in FIG. 3.

[0003] A problem encountered with a standard shirt is that if the shirt shrinks or the wearer has gained weight, the neck section 410 of the shirt becomes uncomfortable or the wearer cannot insert the collar button 22 through the collar buttonhole 12. Thus, such shirts cannot be worn.

[0004] Various methods have been attempted to create a shirt collar that can be expanded in such situations. An example is Miller, U.S. Patent No. 1,538,713, wherein in place of a traditional button for the collar, the button is attached to an elastic tab located inside the shirt material layers, the tab biasing the button away from adjacent collar end portions. The button then passes through button holes in each collar end portion. A problem with this button assembly is that it allows for a very limited expansion of the collar.

[0005] Another design is shown in Fisch, U.S. Patent No. 2,425,091, wherein the button hole in the collar opposite the button is replaced with a tab containing a plurality of button holes. Each successive hole being used allows for a larger diameter for the collar to provide various fittings. However, this design does not allow for continuous expansions of the collar. Furthermore, the tab portion is visually unappealing.

SUMMARY OF THE INVENTION

[0006] It is thus an object of this invention to overcome the problems associated with the prior art and to develop an expandable shirt collar that is comfortable, allows for a continuous expansion and is visually appealing when in use. These objects as well as others obvious to one having ordinary skill in the art are overcome with an expandable shirt collar according to the present invention. In lieu of the collar having a button attached thereto, the collar has a tab portion attached in between the layers of material in the collar. The tab then extends through a tab hole in the collar and has a button attached to the end of the tab. The button is generally located in a position similar to that of a conventional button in an unexpanded state.

[0007] The tab portion comprises an elastic portion attached to the collar and a material portion attached to the elastic portion. The material portion of the tab extends through the hole and has the button attached thereon. The material is generally the same material as the rest of the shirt.

[0008] The shirt is generally put on in a similar manner as a traditional shirt. The wearer buttons up all of the buttons, including the button located on the tab. The elastic portion of the tab allows for the collar ends to move with respect to each other, either to reduce the diameter or increase the diameter of the collar. Thus, if the user has gained weight or the shirt has shrunk, the diameter of the collar can expand to accommodate the wearer's neck.

[0009] Such tab and button design can also be used on various other garments. The invention disclosed herein relates to a shirt design, but various other applications are usable as well. For example, the tab design can be used on shorts having button-fastening means, other shirts not being dress shirts, and any other garment that uses a button and button hole as fastening means to maintain together adjacent portions of material.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] The invention will be described in detail in reference to the several drawings in which:

FIG. 1 is a dress shirt known in the prior art;

FIG. 2 is a close up view of the collar portion of the shirt shown in FIG. 1;

FIG. 3 is a close up view of the collar portion in FIG. 2 showing the collar in an up position;

FIG. 4 is a view of the collar portion according to the present invention;

FIG. 5 is a close up view of the collar portion shown in FIG. 4;

FIG. 6 is a profile view of the collar portion along I-I of the collar shown in FIG. 5;

FIG. 7 is a perspective view of the tab portion of the collar according to the invention;

FIG. 8 is a view of the collar portion in a worn condition;

FIG. 9 is another view of the collar portion in an expanded condition; and

FIG. 10 is a perspective view of the collar portion in FIG. 9 with the collar flaps folded down.

DETAILED DESCRIPTION OF THE INVENTION

[0011] The preferred embodiment of the invention is shown in FIGS. 4-10. In lieu of a traditional button attached to a collar, the button 22 according to the invention is attached to a tab portion 500. The tab portion 500 is an elongated material extending from inside the neck section 410 through a tab hole 510 of the collar 40. The collar button 22 in a normal condition is generally located in a similar location as it would be on a traditional shirt. Compare FIGS. 3 and 4.

[0012] As shown in FIGS. 5-7, the tab portion comprises two sections, a first section 501 and a second section 502. The first section 501 is made of an elastic material which allows it to expand and contract. Any elastic material or webbing can be used for such purpose. The second section 502 is preferably made from the same material as the rest of the shirt. This allows the second section to blend in with the shirt, making the tab 500 less visible. However, the invention should not be limited as such, because any number of materials can be used as long as it can operate the same as the second section 502 disclosed herein.

[0013] As shown in FIG. 6, the tab 500 extends between the inner side 411 and the outer side 412 of the neck section 410, and is attached to the inner side 411 at tab end 531. However, the tab 500 may be attached to either the inner side 411, the outer side 412 or

both depending on the application. For purposes of this description, the tab 500 will be attached to the inner side 411. The attachment may be by any method as long as it firmly holds the tab end 531 in place during normal use. Preferably, the tab end 531 is secured to the inner side 411 by stitching.

[0014] As shown in FIG. 7, the first section 501 and the second section 502 are joined together at a tab transition 532. The tab transition 532 may be by any means necessary to secure the sections together. Preferably, the tab transition 532 is a stitching.

[0015] The second section 502 extends from the first section 501 through tab hole 510 to the outside of the collar 40. The second section has on its end the collar button 22 for fastening with the buttonhole 12 on the other collar end to form the collar loop as shown in FIG. 8. The collar button 22 may be attached to the second section 502 as any traditional button may be secured, but also may have more stitching due to the elastic force supplied by the first section 501.

[0016] The tab 500 according to this design is capable of elongating when the collar button 22 is pulled away from the tab end 531 in the direction E shown in FIG. 6. Such pulling occurs when the shirt has shrunk or the wearer has gained weight and the collar diameter is smaller than the neck of the wearer. Thus, the collar must be elongated to accommodate for the tight fit. The elongation of the tab 500 allows the collar ends to move away from each other, increasing the diameter of the collar 40.

[0017] The operation of the tab assembly is shown in FIGS. 8 and 9. In FIG. 8, the collar 40 has the diameter for which the shirt was designed. Both of the collar ends 414 and 415 overlap each other completely. However, when the collar diameter is too small for the neck of the wearer, the collar must expand, which is shown in FIG. 9. Note the collar ends 414 and 415 have moved away from each other slightly. Such is accomplished by the elastic of the first section 501 expanding inside the collar 40 to allow more of the second section 502 to emerge from the collar. The excess portion of the second section 503 gives the collar a greater diameter.

[0018] When the flap section 420 is again folded over the neck section 410, as shown in FIG. 10, most of the tab portion is covered up. However, various adjustments of the location of the tab hole 510 can move the tab hole from sight. The drawing in FIG. 10 also illustrates the advantage of the present invention, whereby the collar 40 of the shirt is expanded to widen the neck section 410 of the collar, while at the same time the buttons 23 below the collar work in the traditional manner. The expansion is shown in an extreme condition, however, various diameters of the neck section of the collar are possible with the elastic portion of the tab. In each diameter, the elasticity of the tab is biased towards contraction, which favors a reduction in the diameter of the collar and keeps the collar snug around the neck of the wearer.

[0019] From the forgoing description of an expandable collar, it will be evident that there are a number of modifications of the present disclosure that come within the purview of the invention. For example, the particular design for the tab and button assembly should

not be limited to button-up shirts, but can be use in any garment having two portions connected together via a button and buttonhole attachment means. For example, for a button on a pair of jeans, a similar tab and button assembly would allow the waist-line of the jeans to be widened while at the same time keeping the waist-line snug on the body. The invention could also be used for the buttons down the front of a shirt, and should not be limited to the collar portion of the shirt. Various other designs are likewise possible as long as they involve similar means and work in a similar manner. Other modifications of the above examples, which may be made by those having ordinary skill in the art, remain within the scope of the invention. Thus, the spirit and scope of the present invention should be defined only by the terms of the claims.